

A B S T R A C T

RECEIVING APPARATUS INCLUDING ADAPTIVE BEAMFORMERS

Receiving apparatus, for receiving a transmission
5 signal in a cellular mobile communications system,
comprises a main beamformer ($6_M, 14_M$) which processes
received signals, representing the said transmission
signal, in accordance with a main beam pattern. This
main beam pattern is determined by beam control
10 information applied to the main beamformer. The main
beam pattern is adjusted as necessary during use of the
receiving apparatus to facilitate reception of the said
transmission signal.

The apparatus also has three assistant beamformers
15 ($6_{A1}, 14_{A1}; 6_{A2}, 14_{A2}; 6_{A3}, 14_{A3}$) that, in an initial
operating phase of the apparatus, process such received
signals in accordance with three different assistant
beam patterns. Each such pattern is determined by beam
control information ($W_{11}-W_{33}$) corresponding
20 individually thereto. The three assistant beamformers
produce output signals (O_{A1}, O_{A2}, O_{A3}) corresponding
respectively to the different assistant beam patterns.

A beam control information setting unit (16, 20)
employs the output signals and the beam control
25 information (W_{11} to W_{33}) corresponding respectively to
the said assistant beam patterns to make an initial
estimate of the beam control information for the main
beamformer.

Such receiving apparatus can permit fast setup of
30 the initial beam control information for the main
beamformer.

[Fig. 2]